

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-35 (Canceled)

Claim 36 (Previously presented): A test apparatus for testing a semiconductor device, said test apparatus comprising:

- a flexible contactor comprising first and second opposing surfaces and a first plurality of terminals disposed on said first surface;

- an interposer comprising:

- a substrate,

- a first plurality of elongate, resilient contact elements extending from a first side of said substrate, ones of said first plurality of contact elements corresponding to ones of said first plurality of terminals, and

- a second plurality of elongate, resilient contact elements extending from a second side of said substrate, ones of said first plurality of contact elements being electrically connected to ones of said second plurality of contact elements; and

- a base for supporting said semiconductor device,

wherein upon application of a pressure differential between said first and second surfaces of said flexible contactor, said flexible contactor flexes, creating electrical connections between ones of said first plurality of terminals on said contactor and ones of a second plurality of terminals on said semiconductor device through ones of said first plurality and second plurality of contact elements.

Claim 37 (Previously presented): The test apparatus of claim 36, wherein each of said contact elements of at least one of said first plurality of contact elements and said second plurality of contact elements are lithographically formed.

Claim 38 (Previously presented): The test apparatus of claim 37, wherein each of said contact elements of said first plurality of contact elements and said second plurality of contact elements are lithographically formed.

Claim 39 (Previously presented): The test apparatus of claim 36, wherein each of said contact elements of at least one of said first plurality of contact elements and said second plurality of contact elements comprise a cantilever beam.

Claim 40 (Previously presented): The test apparatus of claim 39, wherein each of said contact elements of said first plurality of contact elements and said second plurality of contact elements comprise a cantilever beam.

Claim 41 (Previously presented): The test apparatus of claim 75, wherein said first plurality of contact elements are disposed on said first side of said substrate at a first pitch, and said second plurality of contact elements are disposed on said second side of said substrate at a second pitch different than said first pitch.

Claim 42 (Previously presented): The test apparatus of claim 36, wherein said substrate is flexible.

Claim 43 (Previously presented): The test apparatus of claim 36, wherein said substrate comprises silicon.

Claim 44 (Previously presented): The test apparatus of claim 36 further comprising an electronic device disposed on said substrate.

Claim 45 (Previously presented): The test apparatus of claim 44, wherein said electronic device is disposed between ones of said contact elements.

Claim 46 (Previously presented): The test apparatus of claim 44 further comprising a plurality of said electronic devices.

Claim 47 (Previously presented): The test apparatus of claim 46, wherein at least one of said plurality of electronic devices is disposed on said first side of said substrate between ones of said first plurality of contact elements, and at least another of said plurality of electronic devices is disposed on said second side of said substrate between ones of said second plurality of contact elements.

Claim 48 (Previously presented): The test apparatus of claim 36, wherein said ones of said first plurality of contact elements are compressed against said ones of said first plurality of terminals

Claim 49 (Previously presented): The test apparatus of claim 48 further comprising a stop structure for limiting compression of said first plurality of contact elements.

Claim 50 (Previously presented): The test apparatus of claim 36 further comprising a stop structure for limiting compression of said second plurality of contact elements

Claim 51 (Previously presented): The test apparatus of claim 36, wherein said contactor comprises an integrated circuit.

Claim 52 (Previously presented): The test apparatus of claim 51, wherein said contactor comprises a plurality of integrated circuits.

Claim 53 (Previously presented): The test apparatus of claim 51, wherein said first plurality of terminals are disposed on said integrated circuit.

Claim 54 (Previously presented): The test apparatus of claim 51, wherein said integrated circuit comprises circuitry for testing said semiconductor device.

Claim 55 (Previously presented): The test apparatus of claim 36, wherein said semiconductor device is an unsingulated wafer.

Claim 56 (Previously presented): The test apparatus of claim 36, wherein said semiconductor device comprises a plurality of singulated dice.

Claim 57 (Previously presented): The test apparatus of claim 36, wherein said contactor comprises a plurality of tile substrates.

Claim 58 (Previously presented): A test apparatus for testing a semiconductor wafer comprising a plurality of unsingulated dice, said test apparatus comprising:

- a contactor comprising a first plurality of terminals;

- an interposer comprising:

- a substrate,

- a first plurality of elongate, resilient contact elements extending from a first side of said substrate, ones of said first plurality of contact elements corresponding to ones of said first plurality of terminals, and

- a second plurality of elongate, resilient contact elements extending from a second side of said substrate, ones of said first plurality of contact elements being electrically connected to ones of said second plurality of contact elements; and

- a base for supporting said semiconductor wafer, said base configured to move said semiconductor wafer such that ones of a second plurality of terminals on said unsingulated dice of said semiconductor wafer are pressed against ones of said second plurality of contact elements forming electrical connections between ones of said second plurality of terminals of said unsingulated dice and ones of first plurality of terminals on said contactor through ones of said first plurality and second plurality of contact elements.

Claim 59 (Canceled):

Claim 60 (Previously presented): The test apparatus of claim 58, wherein each of said contact elements of at least one of said first plurality of contact elements and said second plurality of contact elements are lithographically formed.

Claim 61 (Previously presented): The test apparatus of claim 58, wherein each of said contact elements of at least one of said first plurality of contact elements and said second plurality of contact elements comprise a cantilever beam.

Claim 62 (Previously presented): The test apparatus of claim 76, wherein said first plurality of contact elements are disposed on said first side of said substrate at a first pitch, and said second plurality of contact elements are disposed on said second side of said substrate at a second pitch different than said first pitch.

Claim 63 (Previously presented): The test apparatus of claim 58, wherein said substrate is flexible.

Claim 64 (Previously presented): The test apparatus of claim 58, wherein said substrate comprises silicon.

Claim 65 (Previously presented): The test apparatus of claim 58 further comprising an electronic device disposed on said substrate.

Claim 66 (Previously presented): The test apparatus of claim 65, wherein said electronic device is disposed between ones of said contact elements.

Claim 67 (Previously presented): The test apparatus of claim 65 further comprising a plurality of said electronic devices.

Claim 68 (Previously presented): The test apparatus of claim 67, wherein at least one of said plurality of electronic devices is disposed on said first side of said substrate between ones of said first plurality of contact elements, and at least another of said plurality of electronic devices is disposed on said second side of said substrate between ones of said second plurality of contact elements.

Claim 69 (Previously presented): The test apparatus of claim 58, wherein said first plurality of contact elements are compressed while said ones of said second plurality of terminals on said unsingulated dice of said semiconductor wafer are pressed against said ones of said second plurality of contact elements.

Claim 70 (Previously presented): The test apparatus of claim 69 further comprising a stop structure for limiting compression of said first plurality of contact elements.

Claim 71 (Previously presented): The test apparatus of claim 58, wherein said contactor comprises an integrated circuit.

Claim 72 (Previously presented): The test apparatus of claim 71, wherein said contactor comprises a plurality of integrated circuits.

Claim 73 (Previously presented): The test apparatus of claim 71, wherein said first plurality of terminals are disposed on said integrated circuit.

Claim 74 (Previously presented): The test apparatus of claim 71, wherein said integrated circuit comprises circuitry for testing said semiconductor device.

Claim 75 (Previously presented): The apparatus of claim 36, wherein said first plurality of elongate, resilient contact elements is disposed on said first side of said substrate, and said second plurality of elongate, resilient contact elements is disposed on said second side of said substrate.

Claim 76 (Previously presented): The apparatus of claim 58, wherein said first plurality of elongate, resilient contact elements is disposed on said first side of said substrate, and said second plurality of elongate, resilient contact elements is disposed on said second side of said substrate.

Claim 77 (Previously presented): The apparatus of claim 58, wherein said contactor further comprises an interface to a host controller.

Claim 78 (Previously presented): The apparatus of claim 58, wherein said base is further configured to move said semiconductor wafer such that said ones of said second plurality of terminals on said unsingulated dice of said semiconductor wafer are moved out of contact with said ones of said second plurality of contact elements.